GS-2328KX

GS-2328KX: 20-Port 10/100/1000Base-T+ 4 TP / (100/1G) SFP Combo + 4 (1G/10G) SFP+ L2 Plus Managed Switch

ECO Series

Key Features

- L2+ features provide better manageability, security, QoS, and performance
- Dual speed SFPs for FE or GbE fiber uplink; Dual speed SFP+s for GbE or 10G fiber uplink
- 802.3az Energy Efficient Ethernet standard
- IPv6 and s-Flow supports
- Support Static Route function (HW ready, FW Available expect at 2012 Q2)
- Easy-Port-Configuration for ease of setup in the IP Phone, IP Camera or Wireless environment

Overview

The GS-2328KX, the next generation L2+ managed switch from Rubytech, provides a reliable infrastructure for your business network. This switch delivers more intelligent features you need to improve the availability of your critical business applications, protects your sensitive information, and optimize your network bandwidth to deliver information and applications more effectively. It provides the ideal combination of affordability and capabilities for enterprise applications and helps you create a more efficient, better-connected workforce.

Applications

Whether you want to create a high-performance network to connect all clients' computers or an application to deliver data, voice, and video services, the GS-2328KX provides a solution to fit your requirements. Possible implement scenarios include:

- **Secure and High Performance PC or laptop connectivity:** The GS-2328KX switch can easily and securely connect clients' PC or laptop in offices with each other and with all of the servers, printers, and other networking devices they use. High performance and reliable connectivity will help to speed file transfers and data processing, improves network performance and security, and keeps the clients connected and productive.

- **Secure and Quality wireless connectivity:** The GS-2328KX switch connected with WiFi APs allow WiFi clients to work from conference rooms and public areas, collaborate in any place, and access networking from wherever they are. Gigabit Ethernet connectivity provides these clients have the suitable bandwidth and quality performance they need to make mobility connected. Through embedded security, the clients can work with confidence and authorized users can access networking and network devices.

- **Unified communications with open standards:** To be a managed network solution, it provides the high performance and advanced networking quality to deliver all networking communications and data (such as IP telephony, IP surveillance, and Video Streaming) over a single network.

- **Advanced network security:** The GS-2328KX Switch provides enhanced and advanced network security to guests in public or private area, such as a hotel, an office lobby, or any area open to guests. Using powerful but simple to install security and traffic separating abilities, through guest VLAN or guest access control technology, it will help you to isolate vital networking traffic from guest services and keep guests' network sessions private from each other.

Benefits

The GS-2328KX provides security, performance, quality of services, central management and other network control capabilities. Optimized and customized design and affordable pricing, it best fit for SMB or entry-level enterprise solution. It provides:

- **Excellent performance and reliability:** The GS-2328KX passed the rigorously testing to deliver excellent performance. As a managed switching solution, it also provides the flexibility to manage and prioritize suitable-bandwidth traffic such as voice.

- **Easy, simple deployment and configuration:** The device manager software provides an intuitive, web-based interface to simplify deployment, advanced security (ACLs, IP Source guard, VLAN...etc), and quality of service (QoS) traffic prioritization. It also provides a standard protocol that works through a simple network

managed system software (RubyView) to discover RubyTech's devices in the network and display basic information. This switch uses IEEE802.1AB LLDP to automatically discover all the devices (those support LLDP) connected to the network. For more advanced capabilities and Easy-to-use graphical tools, such as ECP (Easy-Port-Configuration), provides preset options for easily configuring each port of the switch, it will make setup easy when operating with IP phones, IP cameras or Wifi APs. The tree CLI architecture will greatly save your time on the network deployment, management and troubleshooting.

- **Strong security:** The switch provides an advanced security and gives you tight control to safeguard the network from unauthorized users. Advanced security features include:

---Secure remote management by supporting **SSH**, **SSL** and **SNMPv3** connection which encrypt the packet content at each session.

---Extensive access control lists (ACLs) to restrict sensitive portions of the network from unauthorized users or guests.

---Guest virtual LANs (VLANs) provide Internet connectivity to guests while isolating critical traffic from guest traffic.

---IP Source Guard to prevent datagrams with spoofed addresses from being in the network.

---IEEE802.1X port security to tightly limit access to specific segments of network.

- **Voice support:**

The switch can be easily configured with the specific VLAN and QoS parameters to prioritize voice traffic whereas ensure consistent network performance for all services.

- **Advanced network management capabilities:** As a managed switch, it helps you to use a variety of advanced managing features to manage traffic over your network. Features include:

---**Support IPv6:** As the IP network addressing scheme evolves to accommodate more devices, GS-2328KX supports IPv6, the newest version of the Internet Protocol, as well as the previous IPv4 standard. As the result, you have the ability to move up to the next generation of networking applications without an extensive equipment upgrade.

---**Remote management:** Using Simple Network Management Protocol (SNMP) and IEEE802.1AB LLDP, you can configure and manage GS-2328KX and other Rubytech switches in the network remotely, instead of having to directly connect to them.

- **Energy efficiency:** GS-2328KX is designed to comply with IEEE802.3az, energy efficient Ethernet protocol, reducing energy costs without compromising performance. Power-saving features include:

---The latest application-specific integrated circuits (ASICs), using low-power technology, allow for lower power consumption and thinner, more efficient designs.

---Embedded intelligence to adjust signal strength based on cable length.

- **Expansion ports:**

Featuring 20 Gigabit UTP ports, the GS-2328KX also offers 4 Combo UTP/ (100/1G) SFP ports for uplinks to Fast Ethernet or Gigabit Ethernet fiber optic networks and (1G/10G) SFP+ ports for uplinks to Gigabit Ethernet or 10G Ethernet fiber optic networks.

Product Specifications

Feature	Description		
Performance			
Switching capacity and forwarding rate	**Model Name**	**Capacity in Millions of Packets per Second (mpps) (64-byte packets)**	**Switching Capacity in Gigabits per Second (Gbps)**
	GS-2328KX	95.23	128
Layer 2 Switching			
Spanning Tree Protocol (STP)	Standard Spanning Tree 802.1d Rapid Spanning Tree (RSTP) 802.1w Multiple Spanning Tree (MSTP) 802.1s		
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad • Up to 14 groups • Up to 8 ports per group		
VLAN	Support for up to 4K VLANs simultaneously (out of 4096 VLAN IDs) • Port-based VLAN • 802.1Q tag-based VLAN • MAC-based VLAN • Management VLAN • Private VLAN Edge (PVE)		

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Feature	Description
Voice VLAN	Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS
Generic VLAN Registration (GVRP)	Protocols for automatically propagating and configuring VLANs in a bridged domain
DHCP Relay (Layer 2)	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82
IGMP v1/v2/v3 snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters; supports 1024 multicast groups (source-specific multicasting is also supported)
IGMP Querier	IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router.
IGMP Proxy	Support IGMP Proxy
MLD v1/v2 snooping	Deliver IPv6 multicast packets only to the required receivers
Security	
Secure Shell (SSH) Protocol	SSH secures Telnet traffic in or out the switch, SSH v1 and v2 are supported
Secure Sockets Layer (SSL)	SSL encrypts the http traffic, allowing advance secure access to the browser-based management GUI in the switch
IEEE 802.1X	IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN , single/multiple host mode and single/multiple sessions Supports IGMP-RADIUS based 802.1X Dynamic VLAN assignment
Layer 2 isolation Private VLAN Edge (PVE)	PVE (also knows as protected ports) provides L2 isolation between clients in the same VLAN, supports multiple uplinks
Port Security	Locks MAC Addresses to ports, and limits the number of learned MAC addresses
IP Source Guard	Supports illegal IP address to access to specific port in the switch
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. Switch as a client
Storm control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
ACLs	Support up to 256 entries Drop or rate limitation based on source and destination MAC, VLAN ID or IP address, protocol, port, differentiated services code point (DSCP) /IP precedence, TCP/ UDP source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag
Quality of Service	
Hardware Priority Queue	Support 8 hardware queues
Scheduling	Strict priority and weighted round-robin (WRR) Queue assignment based on DSCP and class of service (802.1p/ CoS)
Classification	Port based; 802.1p VLAN priority based; IPv4/IPv6 precedence/ type of service (ToS) / DSCP based; Differentiated Services (DiffServ); classification and re-marking ACLs, trusted QoS
Rate Limiting	Ingress policer; egress shaping and rate control; per VLAN, per port and flow based
IPv6 applications	Web/ SSL, Telnet/ SSH, ping, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, Syslog
Management	
Web GUI interface	Built-in switch configuration utility for browser-based device configuration (HTTP/ HTTPs). Supports configuration, system dashboard, maintenance, and monitoring
Dual Image	Dual image provides independent primary and secondary OS files for backup while upgrading
SNMP	SNMP version 1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Remote Monitoring (RMON)	Embedded RMON software agent supports RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis
IPv4 and IPv6 dual stack	Coexistence of both protocol stacks to migration
Firmware upgrade	• Web browser upgrade (HTTP/ HTTPs) and TFTP • Upgrade through console port as well

Feature	Description
	• RubyView to deploy the switch firmware
Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. N-1 (N is Switch's Ports)ports can be mirrored to single destination port. A single session is supported.
Easy-Port-Configuration	Easily to configure of clients' QoS and Security capabilities.
Other management	Single IP management (Available expect at 2012 Q1); HTTP/HTTPs; SSH; RADIUS; DHCP Client/ DHCPv6 Client ; SNTP; cable diagnostics; ping; syslog; Telnet client (SSH secure support)
s-Flow	The industry standard technology for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats
UPnP	The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play
Green Ethernet	
Link detection	Compliant with IEEE802.3az Energy Efficient Ethernet Task Force. Automatically turns off power on Gigabit Ethernet RJ-45 port when detecting link down or Idle of client. Active mode is resumed without loss of any packets when the switch detects the link up
Cable length detection	Adjusts the signal strength based on the cable length. Reduces the power consumption for cables shorter.
General	
Jumbo frames	Frame sizes up to 9KB supported on Gigabit interfaces
MAC Table	Up to 32K MAC addresses.
Discovery	
Link Layer Discovery Protocol (LLDP) (IEEE802.1AB) with LLDP-MED extensions	Used by network devices for advertising their identity, capabilities, and neighbors on a IEEE 802 local area network, principally wired Ethernet.
Interface	

Ports	Model Name	Total System Ports	RJ-45 Ports	UTP/SFP (100/1G) Combo	SFP (100/1G)	1G/10G SFP+
	GS-2328KX	28	20GbE	4		4

Environmental (preliminary)	
Dimensions	442(W)x 44(H) x 300(D) mm
Weight	3.9Kg
Power	100-240 VAC 50~60 Hz, internal , universal
Certification	CE Mark, FCC Part 15 Class A
Operating temperature	0 to 40°C
Storage temperature	-20°C to70°C
Operating humidity	10% to 90% , relative, noncondensing

Package Contents

- Switch
- Power Cord
- Mounting Kit
- Console Cable
- CD-ROM with user manual documentation (PDF) included
- QIG (Quick Install Guide)

Minimum Requirements

- Web browser: Mozilla Firefox version 2.5 or later, Microsoft Internet Explorer version 6 or later
- Category 5 Ethernet network cable
- TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in network

Ordering Information

Model Name	Description
GS-2328KX	20-Port 10/100/1000Base-T +4 TP/(100/1G) SFP Combo +4(1G/10G) SFP+ L2 Plus Managed Switch

ECO Series

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